

NOISE EMISSION SPECIFICATION

Information Required with Submittal

The Contractor shall complete the attached submittal form and submit one for each specified loading condition with the quotation. When sound level data is requested and sound power level data is also available, this information shall be included.

OPT. NASA LeRC may permit alternate vendor submittal forms to be used by Contractors, provided that the information requested on the attached submittal form is furnished by the Contractor.

When noise emission requirements cannot be satisfied by the Contractor's standard design, alternatives for special design or for acoustical treatment of the standard design shall be quoted as a separate line item.

When an alternative or third-party acoustical treatment is quoted by the Contractor, the proposal shall contain all pertinent design details, cost, and effect on performance, if any.

Charges for testing and any increase in the quoted price, because of noise specifications, shall be noted in the overall equipment cost and shown as separate items in the Contractor's quotation.

Abatement designs shall not limit equipment operations or accessibility, nor shall they conflict in any way with NASA LeRC safety and engineering standards.

Equipment Loading and Operating Conditions

*The range of operating conditions expected for the specified equipment is **(insert expected range of loading and operating conditions)**. Specified noise emission limits shall not be exceeded for operation at any point within this range.*

OPT. Equipment shall be operated at the required production rate and performing specified operations. (for use when the machine is specified for a specific purpose)

OPT. Equipment shall be operated in the unloaded mode of operation that generates maximum noise levels. (for use when the machine is purchased without specified tooling)

5.3 Maximum Permissible Sound Level (MPSL)

Equipment sound levels in decibels (re 20 μ Pa) at a distance of 1 meter from the equipment, shall not exceed **(insert MPSL)** dBA as measured in post-installation testing when operated under the loading conditions specified above. Post-installation sound testing will be conducted according to NASA LeRC "Equipment Sound-Level Verification Test For Use By The Purchaser".

5.4 Maximum Permissible Octave Band Sound Power Levels (PWL)

NOTE - This section applies only to equipment sited outdoors.

Equipment sound power levels, in decibels (re 1 picowatt), shall not exceed the values tabulated below in any octave band when operated under the loading conditions specified above.

	63	125	250	500	1000	2000	4000	8000
Sound Pressure Level	127	120	113	110	108	107	107	106

5.5 Warranty of Equipment Noise Emission

The Contractor's equipment shall not exceed the maximum permissible sound-level (MPSL) and, if applicable, the octave band sound power levels (PWL) stated in the specification. The Contractor shall be responsible for performing all remedial work necessary for compliance with these specifications at no additional cost to NASA LeRC.

OPT. A pre-installation acceptance test shall be performed by the Contractor. The test shall take place in the Contractor's facility, at a qualified laboratory, or at an installation in the field, according to **(insert test code from Table 1, Page 5)**, on same or similar equipment operated under the load conditions specified above. The Contractor shall give notice three weeks prior to the date on which the laboratory, shop or field-witnessed test is to be made, so that a representative of each party may be present. An

alternative sound-level test code or procedure may be proposed by the Contractor for approval by NASA LeRC.

OPT. A post-installation verification test will be performed by the Purchaser. The test will be conducted in accordance with NASA LeRC post-installation field verification test procedures.

NASA LeRC reserves the right to waive pre-installation acceptance tests or post-installation acceptance tests when certified equipment sound-level test data, acceptable to NASA LeRC, are furnished.

NASA LeRC reserves the right to reject any item which, when tested using specified test procedures, does not meet the required limits. If a pre-installation sound-level test has been waived and the equipment exceeds required sound-level limits on field testing, remedial Contractor action will be required.

5.6 Vibration Isolation

Equipment shall be furnished with vibration isolation treatments in accordance with ASHRAE 1995 Applications Guide, Chapter 43, Sound and Vibration Control, Table 42. Equipment not covered in Table 42 shall be provided with, at minimum, ribbed neoprene pads loaded for a static deflection equal to 20% of their rest height. Steel-spring isolators shall be provided with ribbed neoprene pads mounted in series with the springs.